Series 500 CLS 503 User Guide

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1 Introduction

The Omnisense CLS 503 is a small PC used to collect the Series 500 device data, compute their locations and optionally display graphics. It can also serve a stream of location data to another application over the network.

The operating system on this computer is Ubuntu 12.04, which is a distribution of the GNU/Linux operating system, often called simply Linux for short.

You may not be familiar with Ubuntu or with Linux, so this guide contains pointers on how to achieve some common tasks.

2 Startup

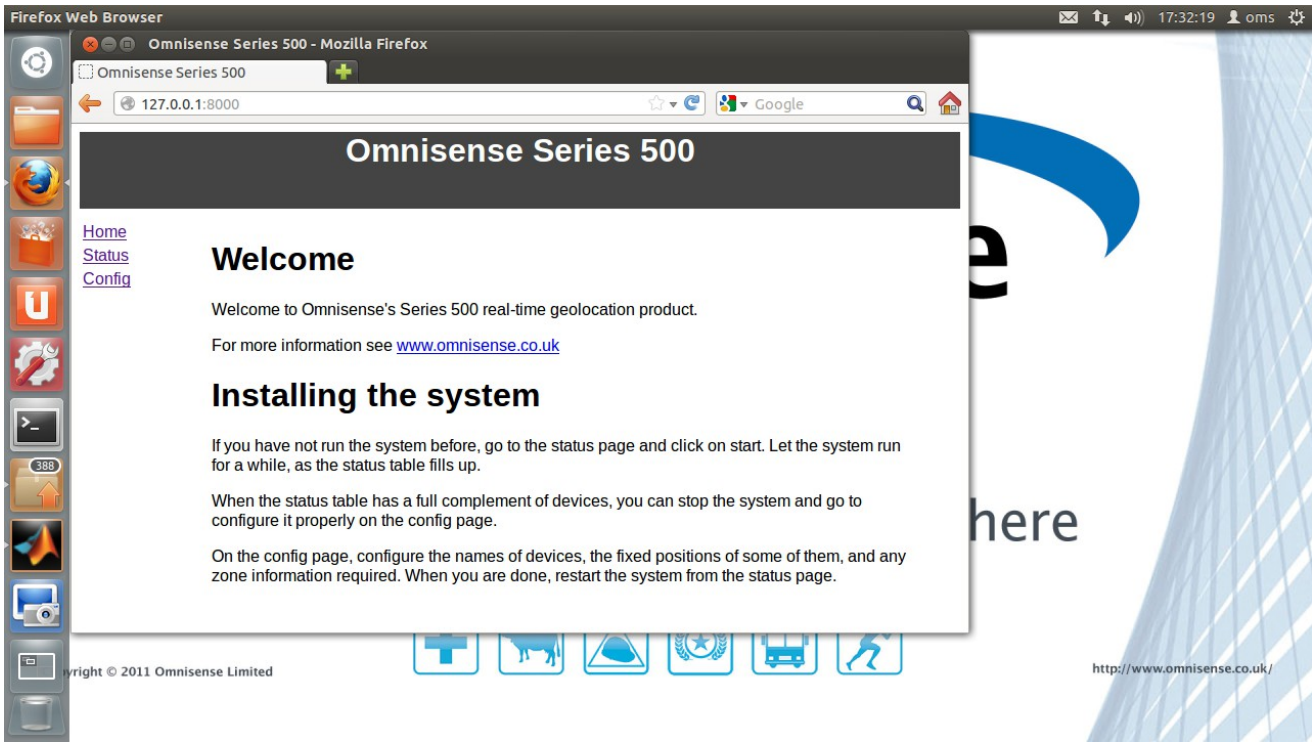
Firefox Web Browser
17:32:19
oms
Omnisense Series 500 - Mozilla Firefox
Omnisense Series 500
127.0.0.1:8000
Google
Omnisense Series 500
Home
Status
Config
Welcome
Welcome to Omnisense's Series 500 real-time geolocation product.
For more information see www.omnisense.co.uk
Installing the system
If you have not run the system before, go to the status page and click on start. Let the system run for a while, as the status table fills up.
When the status table has a full complement of devices, you can stop the system and go to configure it properly on the config page.
On the config page, configure the names of devices, the fixed positions of some of them, and any zone information required. When you are done, restart the system from the status page.
here
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Figure 1: Startup screen

The picture above shows the screen when we first start up. The CLS 503 is configured to automatically login and startup the Firefox web browser.

The CLS 503 is configured with a single user: name “oms” and password “omspass”. If the screensaver kicks in you may need the password to unlock.

The picture shows the main elements of the Ubuntu desktop. Down the left-hand side is a column of icons with applications (such as Firefox) and the trash can. Along the top is a menu-bar, with the application's menus on the left and system menu's on the right. In the picture above Firefox's menus are not visible, but they become visible when the mouse enters the menu area.

3 Shutdown

To shutdown the CLS 503 choose shutdown from the right-most menu:

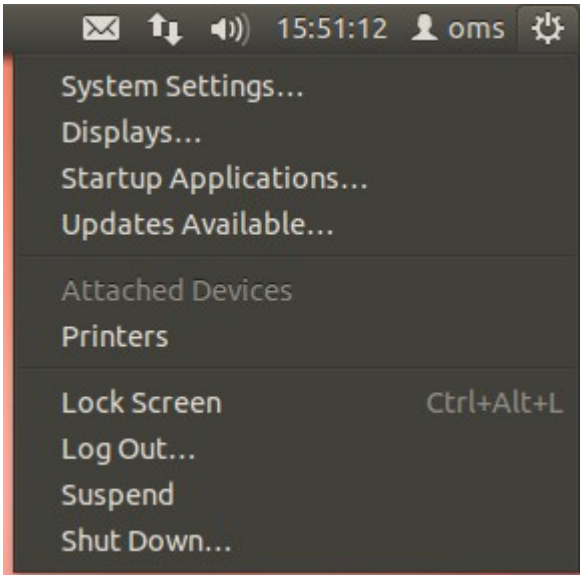

Figure 2: The system menu

Figure 2 shows the system menu with “Shut Down...” at the bottom.

Hint: Firefox does not shut down cleanly if you simply use the “Shut Down” menu item. It is best to close Firefox before choosing “Shut Down”. If it is not closed, on reboot Firefox will come up a window prompting you to “Restore the last session”. Choose this option to restore your previous tabs.

4 System settings

Perhaps your display does not look quite right? Perhaps the keyboard layout is not right? Do you need to set the local timezone? These things can be done using the “System settings” application which is on the dock:

Figure 3: System settings application icon

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Figure 4 shows the application window:

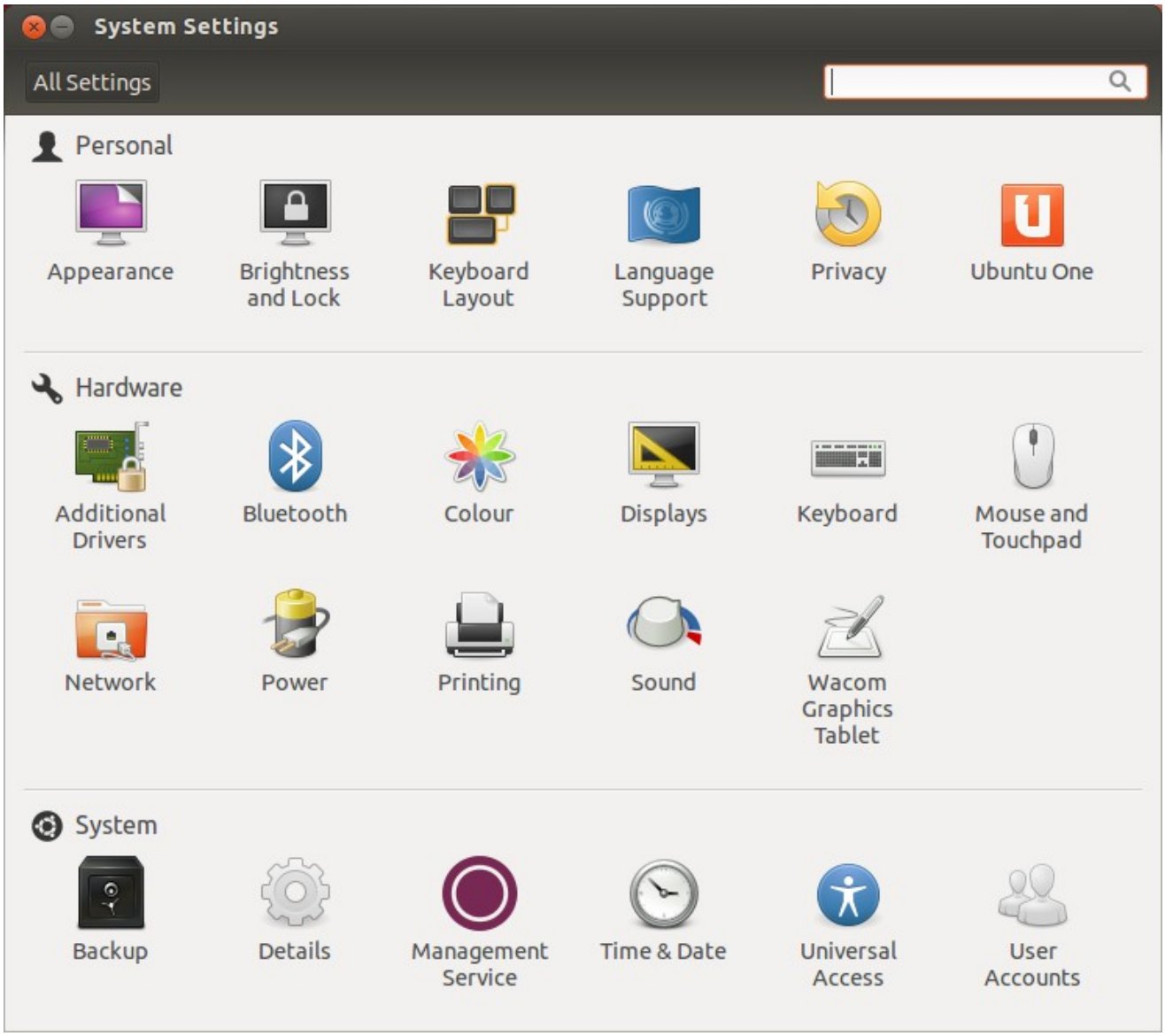

Figure 4: System settings window

The system settings window shows the “Keyboard Layout” application in the “Personal” section at the top, the “Displays” application in the “Hardware” section in the middle, and the “Time & Date” application in the “System” section at the bottom.

4.1 Changing the keyboard layout

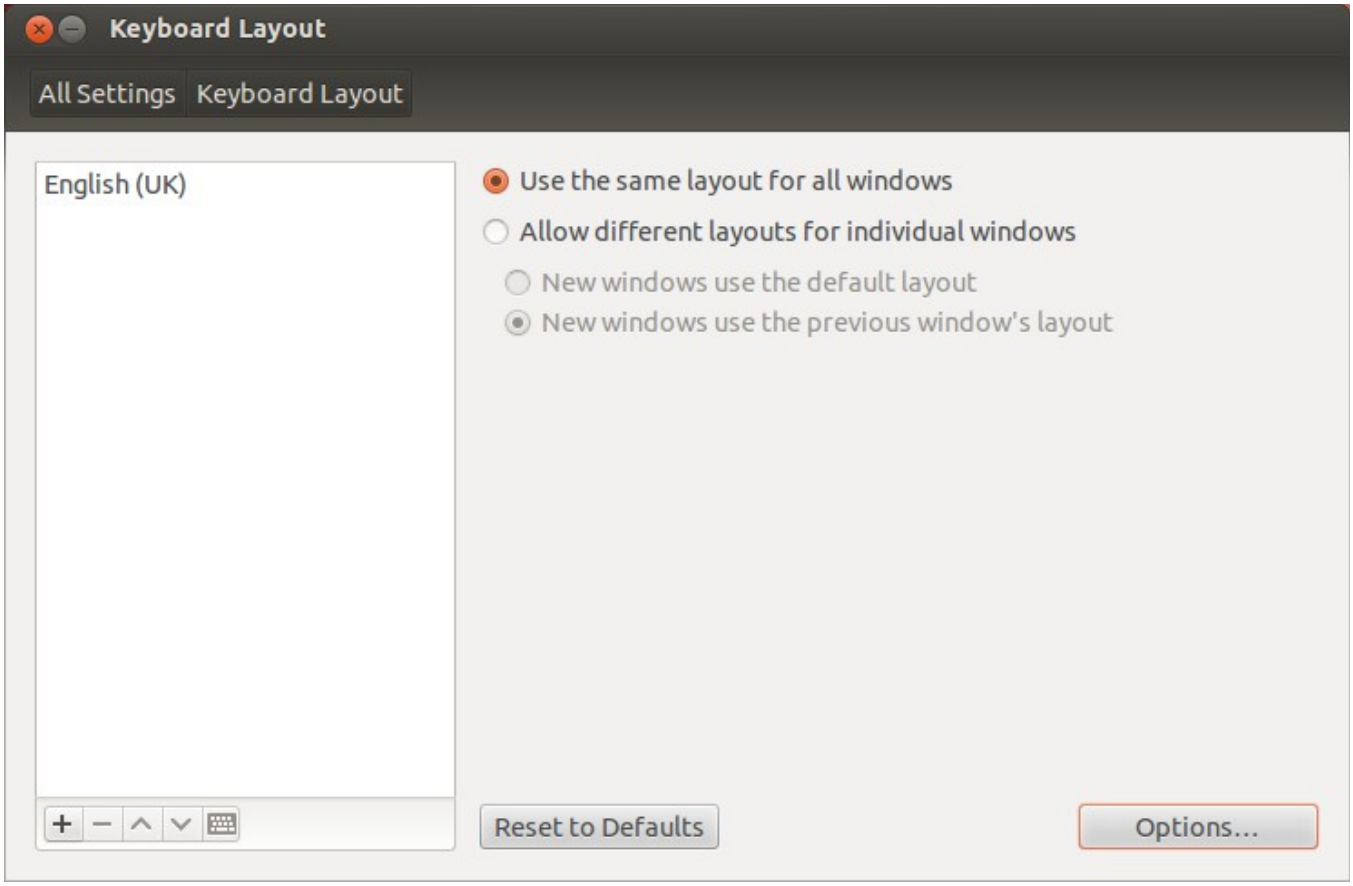

Figure 5: Keyboard layout window

Figure 5 shows the keyboard selection window. Use the "+" button at the bottom-left to add a new keyboard layout.

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4.2 Adjusting the display

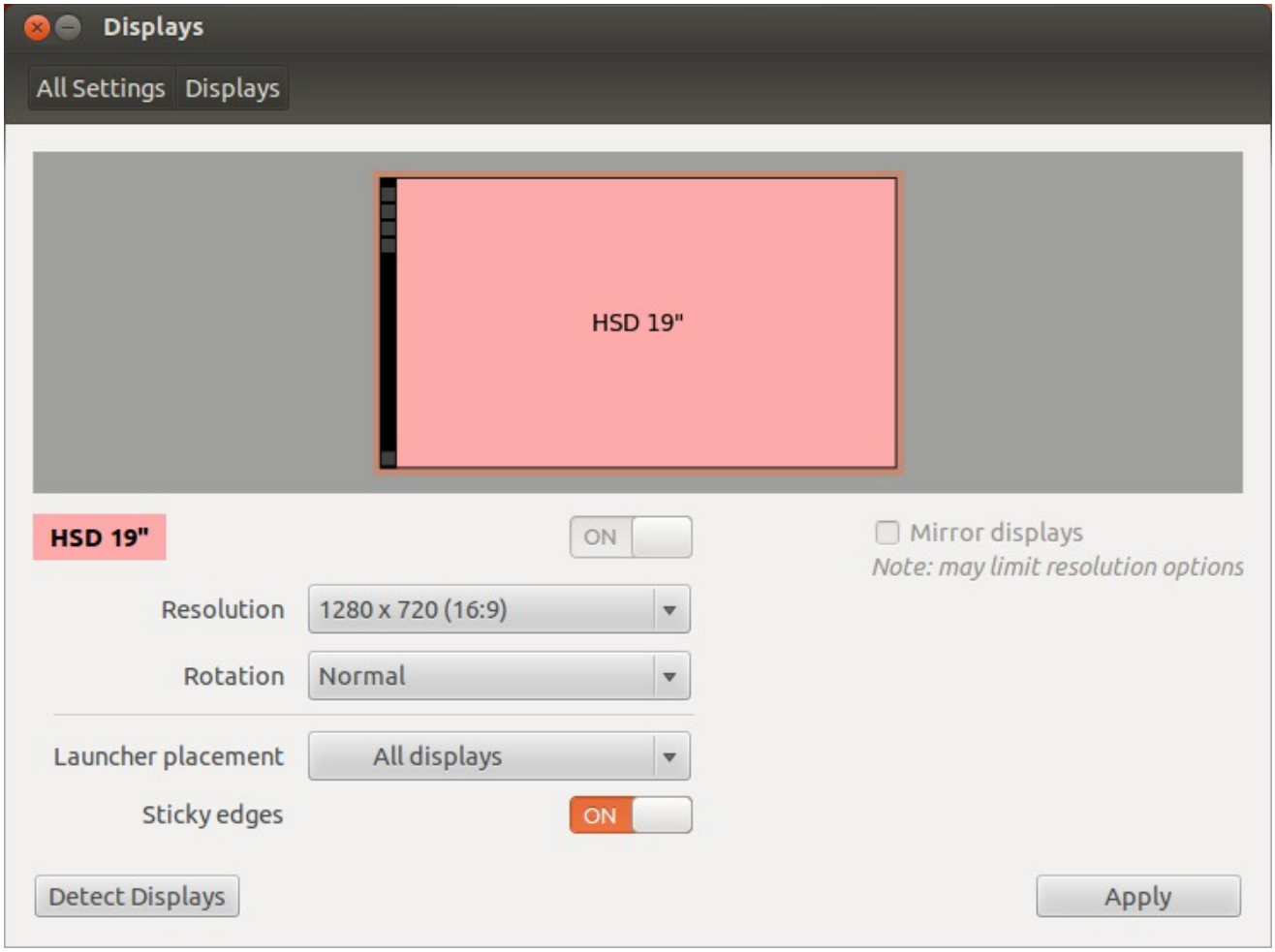

Figure 6: Displays window

Figure 6 shows the displays window. Choose the best resolution for your monitor.

Hint: If a “phantom” screen appears, alongside your actual display, uncheck “Mirror displays”, select the phantom screen, and turn it off (using the on/off slider at the top).

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4.3 Setting the time and date

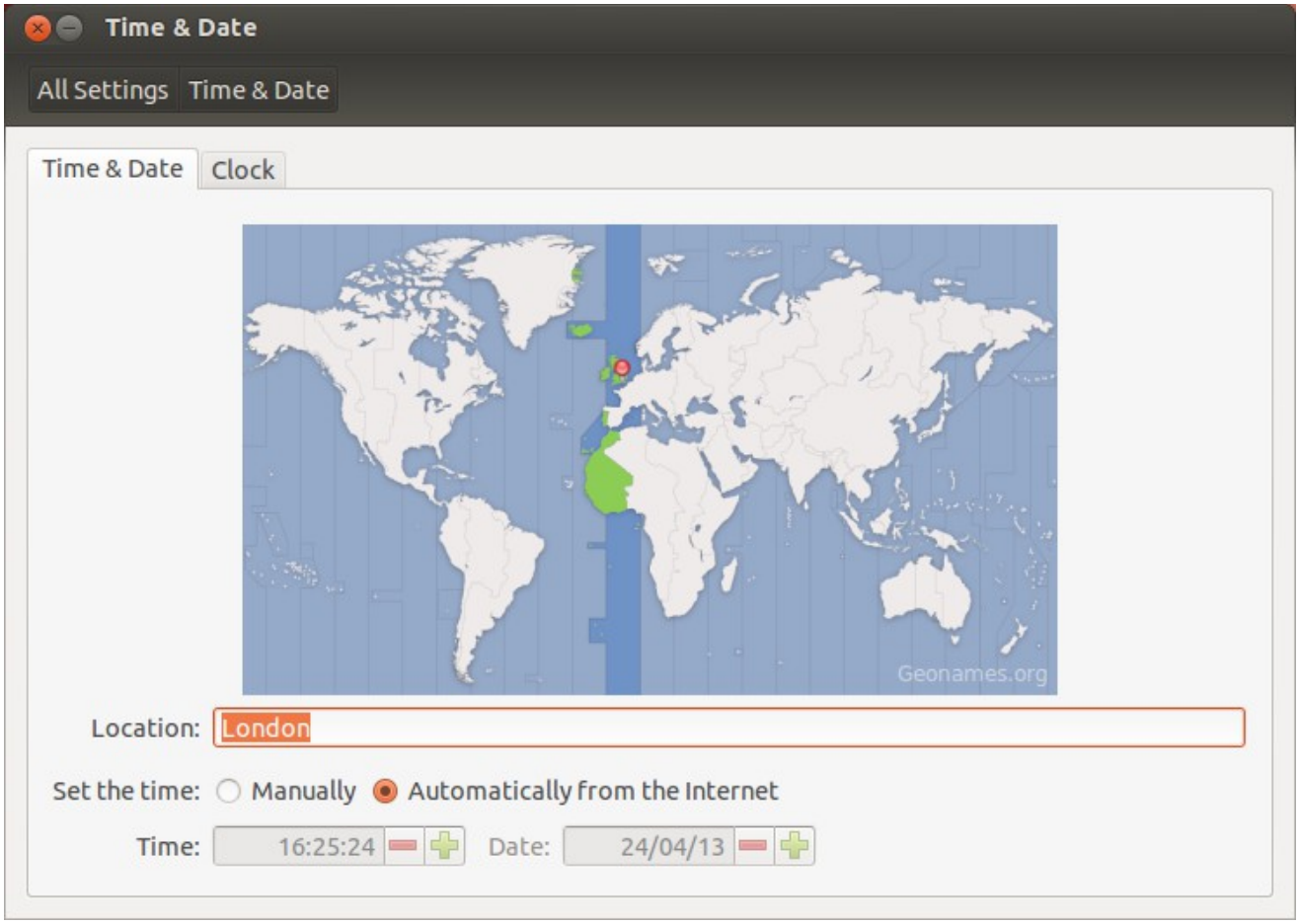

Figure 7: Time & Date application

Figure 7 shows the Time & Date application. Use the vertical grids to choose your timezone and select your location. You can set the time manually or automatically from the internet.

The “Clock” tab has a number of options for how times and dates are displayed.

5 Networking

The CLS 503 is configured to obtain an IP address using DHCP. This means the address is allocated to it dynamically by your local network.

To find out what this IP address is, start the “Terminal” application from the left-hand application dock, and type `ifconfig eth0`. You should see something like this:

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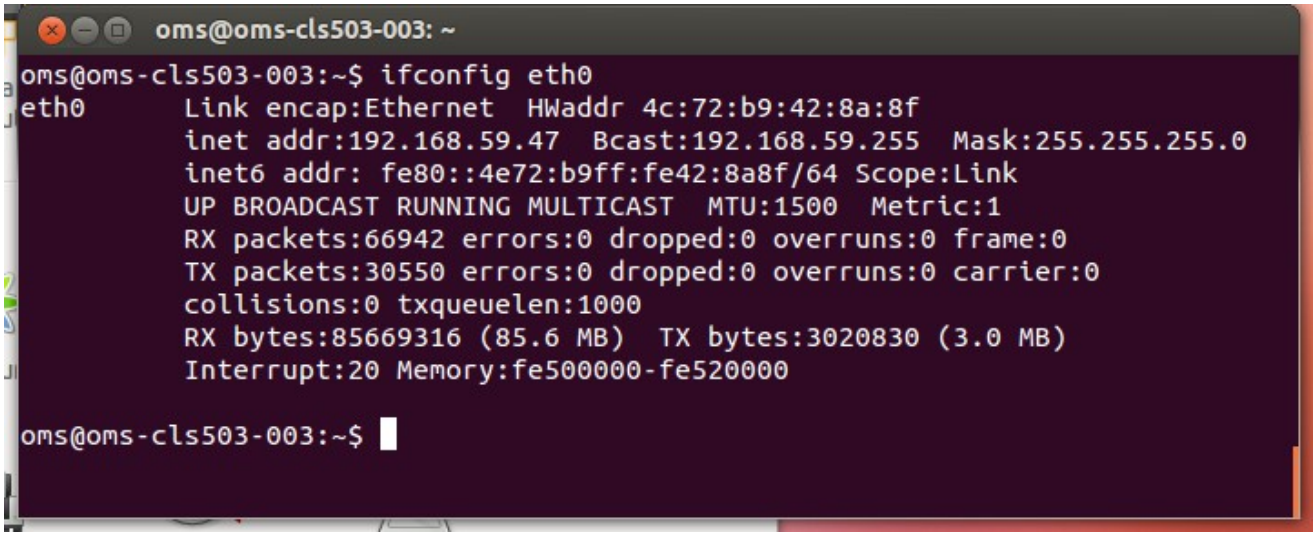
oms@oms-cls503-003: ~
oms@oms-cls503-003:~$ ifconfig eth0
eth0 Link encap:Ethernet HWaddr 4c:72:b9:42:8a:8f
inet addr:192.168.59.47 Bcast:192.168.59.255 Mask:255.255.255.0
inet6 addr: fe80::4e72:b9ff:fe42:8a8f/64 Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:66942 errors:0 dropped:0 overruns:0 frame:0
TX packets:30550 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:85669316 (85.6 MB) TX bytes:3020830 (3.0 MB)
Interrupt:20 Memory:fe500000-fe520000
oms@oms-cls503-003:~$

Figure 8 shows the output of the ifconfig command. The IP address is called “inet addr” and appears on the third line of the text above. In this case it is 192.168.59.47.

Most CLS 503s have *two* ethernet ports and you may have plugged the cable into the one called `eth1`. If so typing `ifconfig eth1` brings up its information. In fact typing `ifconfig` alone brings up the information for all interfaces.

Once you know your IP address you can connect to the CLS 503 using it. For example, using ssh to login, or connecting to Omnisense's location server to receive location output over a TCP/IP connection. When using DHCP it is likely that the DHCP server assigns the same address to the CLS 503 each time it is booted up. However, it may be assigned a new address, at least in principle. It may also be that you are in a situation where you are not using DHCP, for example, in a site where the “network” is the CLS 503 and your laptop. So there are some situations where you may want to set the IP address yourself.

To change the IP address, select “Edit Connections” from the “Networking” menu:

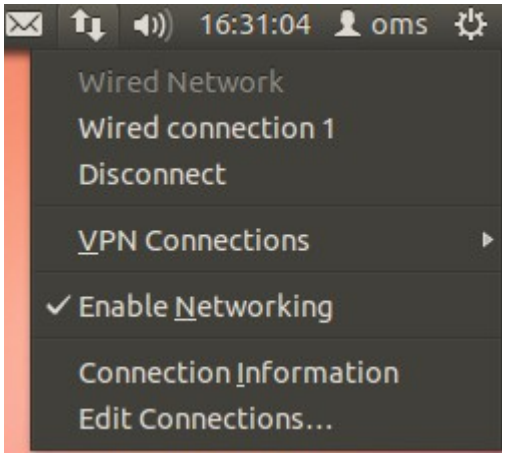

Figure 9: Networking menu

This brings up the Network Connections window as shown in Figure 10. Select the wired connection and click “Edit”.

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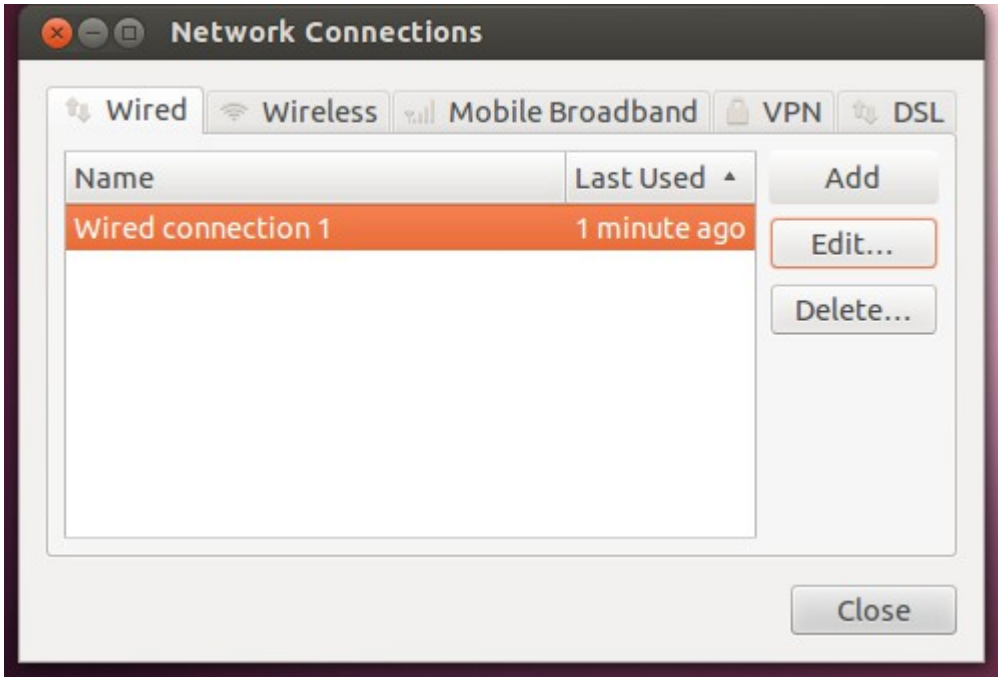

Figure 10: Network connections

Clicking “Edit” brings up the “Editing connection” dialog:

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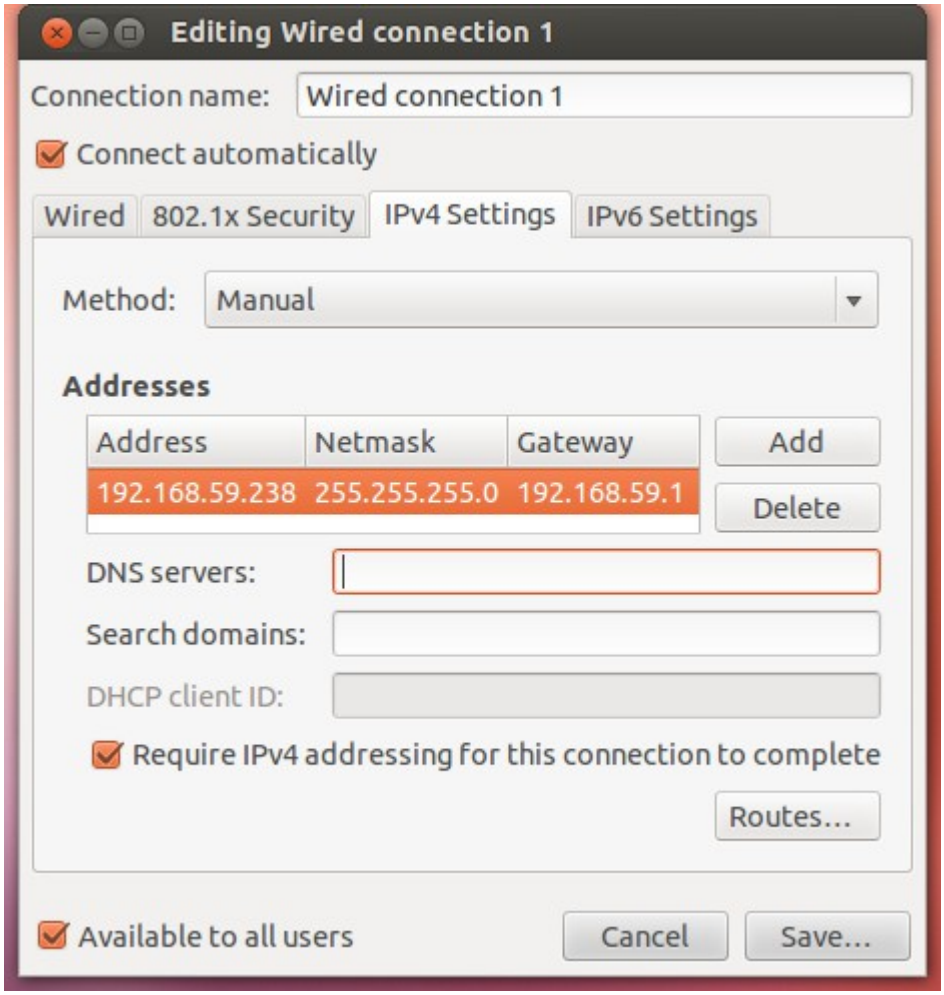

Figure 11 shows the “Ipv4 Settings” tab of the window for “Wired connection 1”. The “Method” dropdown has been set to “Manual”. (Automatic using DHCP is another option.)

In the “Addresses” section, we see the setting of a manual address (192.168.59.238 on the left) with a gateway (192.168.59.1 on the right). These two addresses will need changing to suit your local network. The netmask will probably be suitable, but check with your IT administrators.

6 More Information

You can find out more about ubuntu on the net, www.ubuntu.com is one starting point. The version of Ubuntu being used is 12.04 LTS, where the LTS means “long term support”.

You can contact Omnisense on support@omnisense.co.uk.

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